LOOPS IN PYTHON ⚛

Types of Loops in python:-

While , For , Nested

(1)While Loop are conditional loops. they will keep iterating until certain conditions are met.

```
 #SYNTAX
 # while expression:
 #   statements

count = 0
while count<9:
   print("number:" , count)
   count = count+1

   print('good bye')

#Guessing Game
import random
n = 20
to_be_guessed = int(n * random.random()) +1
guess = 0
while guess != to_be_guessed:
guess = int(input("new number: "))
  if guess >0:
    if guess > to_be_guessed:
      print("number is too large")
  elif guess < to_be_guessed:
                              print("number is too small")
  else:
```

```
        print("Sorry that you are giving up")
        break;
else:
      print("Congrats! you won")
```

(2) FOR LOOPS --> repeats a group of statements a specified number of times.

```
fruits = ['mango', 'grapes', 'apple', 'banana']
for fruit in fruits:
  print("current fruit:", fruit)

  print("Good Bye")

#Finding Factorial Of A Number

num = int(input("Number:"))
factorial = 1

if num < 0:
  print("must be positive")
elif num == 0:
    print("factorial = 1")
else:
  for i in range(1, num + 1):
    factorial = factorial*i
    print(factorial)
```

NESTED LOOPS ■

allows you to use loop inside another loop

```
# outer loop
for i in range(1, 11):
    # nested loop
    # to iterate from 1 to 10
    for j in range(1, 11):
        # print multiplication
        print(i * j, end=' ')
    print()
```